

REMARKS

This application contains claims 1-30. Claims 1, 3-7, 12, 14-18, 23, 24 and 26 have been canceled without prejudice. Claims 2, 8-11, 13, 19-22, 25, 27 and 28 have been amended. New claims 29 and 30 have been added. No new matter has been introduced. Reconsideration is respectfully requested.

Applicant thanks Examiners Pitaro and Kincaid for the courtesy of a personal interview with Applicant's representative, Sanford T. Colb (Reg. No. 26,856), held in the USPTO on June 5, 2007. At the interview, Mr. Colb proposed to amend claim 25 to include the limitations of claims 4 and 26. The Examiners agreed that the proposed amendment, with the addition that the "vector of parameters" recited in the claim is a "multi-dimensional vector," would distinguish the present invention over the cited art. Applicant has amended the claims accordingly.

Claims 1-4, 8-15, 19-23 and 28 were rejected under 35 U.S.C. 103(a) over Edgar et al. (U.S. Patent 5,537,530) in view of Liou et al. (U.S. Patent 6,278,446). Applicant has canceled claims 1, 3, 4, 12, 14 and 23. Claims 2, 8-11, 13, 19-22 and 28 have been amended to depend from independent claim 25 or 29. In view of the patentability of these independent claims, as explained below, dependent claims 2, 8-11, 13, 19-22 and 28 are also believed to be patentable.

Claims 5-7, 16-18 and 24-27 were rejected under 35 U.S.C. 103(a) over Edgar in view of Liou and further in view of Wilf et al. (U.S. Patent 7,184,100). Claims 5-7, 16-18, 24 and 26 have been canceled. Independent claim 25 has been amended, as agreed in the interview, to clarify the distinction of the present invention over the cited art. Claim 27 has been amended to depend directly from claim 25.

Claim 25, as amended, recites a method in which a first portion of a segment of a video sequence is generated by computing, for each frame beginning from an initial frame in the sequence, a multi-dimensional vector of parameters indicative of a characteristic of the frame. Vector distances between the frames in the sequence are determined responsively to differences in

the multi-dimensional vector of parameters among the frames. A bounding subset comprising at least three of the frames in the sequence is found, such that the first portion of the segment comprises the frames in the video sequence that are bounded by the frames in the bounding subset. This bounding subset is chosen so as to maximize a sum of the distances between all of the frames in the subset, while each of the distances is no greater than a predetermined maximum.

The Examiner maintained that Wilf teaches the use of a bounding subset (col. 3, lines 20-34, and col. 7, lines 30-35), as recited in claim 25. In these and other passages, Wilf uses a “3-frame buffer,” which includes “a middle frame M, its preceding frame L, and its succeeding frame R.” This buffer is illustrated by Wilf in Fig. 2A. The middle frame may be considered to be bounded by the preceding and succeeding frames, but this would make a “bounding subset” of only two frames (L and R). The M frame does not bound anything. Wilf operates on a one-dimensional sequence of frames, in which there is no meaning to having any more than two frames in a “bounding subset.” Therefore, claim 25 was patentable over the cited references even as it stood before the present amendment.

In order to expedite prosecution, however, Applicant has amended claim 25, as agreed in the interview, to emphasize the multi-dimensional nature of the vector parameter space and bounding subset used in the claim. This scheme is exemplified (in a two-dimensional example, appropriate for presentation on paper) in Fig. 3 of the present patent application. Whereas the cited art all treats video as a simple one-dimensional progression, the invention recited in claim 25 looks at the frames in a video sequence in a multi-dimensional vector parameter space. This approach is advantageous in permitting a large number of frames to be grouped efficiently and reliably, so that they can be represented by the same “r-frame.”

Thus, amended claim 25, as agreed in the interview, is patentable over the cited art. In view of the patentability of claim 25, dependent claims 2, 8-11, 27 and 28, which depend from claim 25, are also believed to be patentable.

New independent claims 29 and 30 recite apparatus and a computer software product that operate on principles similar to the method of claim 25, as amended. These new claims are thus believed to be patentable for the reasons explained above. In view of the patentability of claim 29, dependent claims 13 and 19-22, which depend from claim 29, are believed to be patentable, as well.

Applicant believes the amendments and remarks stated above to be fully responsive to all of the grounds of rejection raised by the Examiner. In view of these amendments and remarks, all the claims in the present patent application are believed to be in condition for allowance. Prompt notice to this effect is requested.

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